

## REMARKS

1. Reconsideration in view of the amendment and comments herein is respectfully requested.
2. Currently claims 1-26 are pending in the application. All claims stand rejected.  
As a preliminary matter, claims 20 and 22-26 have been cancelled without prejudice.
3. Claims 1, 2, 3, 7, 8, 9, 10, 14-16, 19, 20-22, and 24-26 stand rejected under 35 USC 102(b) as being anticipated by Wu et al. (US 5,452,743) (hereinafter referred to as Wu).

Applicants wish to point out major differences between the disclosure of the present application and that of Wu and show that the two are totally different inventions and patentably distinct. The present application discloses a method and apparatus for diagnosing disease by irradiating a suspected diseased area of a patient with light and generating and collecting data for Raman, fluorescent, and diffuse reflectance. The generated data from the patient may be stored in module 230 of Figure 2, Data Acquisition and Storage, see page 9, lines 20 to 31. Additional data that provides spectral data for "normal, pre-cancerous, and cancerous types of tissue and tumors to provide a spectral library and tissue database" stored in Spectral Library and Tissue Data Base module 270 of Figure 2, see page 10, lines 14 to 20. The data generated from illumination of the patient's tissue stored in module 230 of Figure 2 is correlated or compared with data stored in the spectral library (item 270 in Figure 2), with the Spectral Data Analysis module 240, see page 10, lines 1 to 13. This allows the rapid diagnostic measurements having high reliability.

Wu in contrast does not have, use or suggest a spectral library of data representing diseased tissue that is compared to data from a patient in order to diagnose the patient. Wu instead concentrates on obtaining and providing enhanced spectra for diagnosis of disease. This is summarized at column 2, lines 9 to 24. The disclosure of Wu allows the processing of the spectral data such that

various distorting factors can be removed.

Further, it appears that Wu does not disclose the simultaneous use of three measurement techniques as in the present invention where Raman, fluorescence, and reflectance are measured essentially simultaneously. While Wu lists the three methods he does not use them in the same way. The discussion throughout Wu shows that WU is only collecting two of these at a time and using them differently. A good summary is available in the claims where only two light sources are provided - one for measurement of "inelastically scattering emission" claim 1 line 4 while a second light source is used for diffuse reflectance light for correction of either the Raman or fluorescence signals.

Finally, the present invention seeks to improve detection by comparing spectral data, obtained using three spectral techniques applied to tissue of a patient, and comparing this spectral data with stored data in a spectral library. While Wu may make a spectral library as argued in the Official Action, Wu's spectral library only consists of patient data and does not include a spectral library of previously stored spectral data obtained from tissue that is not from the presently examined patient.

Accordingly it appears that independent claims 1 and 8 and their respective dependent claims 2, 3, 7, 9, 10 and 14, traverse this rejection and are allowable. All of these claims provide for a spectral library of normal and diseased tissue and comparing spectral data from the patient to the spectral library.

Claim 15 has been amended in section f by adding limitations for a spectral library as discussed above and the ability to compare data from the patient to the spectral library also as discussed above. Antecedent for "providing Raman, fluorescence, and diffuse reflectance spectra and images in the collected light" located before [[detecting]] is found in section "d" of claim 15. Antecedent for "of Raman, fluorescence, and diffuse reflectance spectra and images representative of normal and diseased tissue" after [[detecting]] is found in section "e" of claim 15. Antecedent for "and wherein the computer system compares Raman, fluorescence, and diffuse reflectance spectra and images in the collected light with Raman, fluorescence, and diffuse reflectance spectra and images representative of normal

and diseased tissue in the spectral library" is found at claim 1 sections "b and c", claim 8 sections "d and e", and page 9, line 1 to 22.

Accordingly it appears that amended claim 15 and its dependent claims 16 and 19 traverse the rejection and are allowable. Claim 21 has been amended to now depend on claim 15 and likewise appears allowable.

New claims 27 and 28 have been added that depend on and further limit independent claims 1 and 8 and appear allowable for the same reasons as discussed above. Antecedent is found at page 2, line 11 "improve disease (e.g. cancer) detection and diagnostics".

4. Claims 1-26 stand rejected under 35 USC 103(a) as obvious over Wu (US 5,452,723), in view of Kaneko (US 5,749,830), and in view of Burgess et al. (Article).

As discussed previously above, Wu does not disclose or suggest the presence or use of a spectral library of tissue data previously stored and used to compare spectra of the tissue under investigation with that stored in the spectral library. Neither Kaneko nor Burgess et al. supplement or overcome this deficiency. Kaneko for example at the Official Action cited part (Fig 6-7, 11 and Col 62 Line 28 – Col 63 Line 7) appears to refer to "normal" images and "fluorescent" images obtained from the same patient that are displayed side by side or superimposed. The "normal" images are obtained from irradiation with normal light and the other signal is obtained from fluorescent light, see column 62, lines 36 to 45. Although storage may take place, this data is for images generated from the same patient only. Additionally, the Kaneko method appears to be non-spectroscopic where no comparison of Raman, fluorescent, and diffuse reflectance spectra takes place.

Accordingly, it appears that remaining rejected claims 1-19, and 21 as well as new claims 27 and 28 traverse this rejection and appear allowable.

5. The prior art not relied upon likewise does not appear to remedy the deficiencies of the above discussed art and no additional comment is provided thereto.

6. A petition for extension of time is being sent as a separate paper herewith.

Applicant's attorney has made a good faith effort to address the concerns expressed in the Official Action. If the Examiner has any remaining issues with the amendment and has any suggestions as to how to address them, the Examiner is invited to call the Applicant's undersigned attorney at the phone number given below, so that those issues can be worked out.

Respectfully submitted,



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